CLAIMS

What is claimed is:

1. A mammalian culture medium supplement comprising recombinant human albumin and fermented hyaluronan, wherein the supplement increases the viability of gametes or embryonic cells cultured in a medium containing the supplement.

2. The supplement according to claim 1 further comprising citrate.

3. The supplement according to claim 1, wherein the supplement is free from one or more of non-recombinant macromolecules, non-recombinant human albumin, hyaluronan derived from a warm-blooded vertebrate and combinations thereof.

4. The supplement according to claim 1, wherein the recombinant human albumin is present in a range of about 0.5 mg/ml to about 5.0 mg/ml when added to a medium.

5. The supplement according to claim 1, wherein the fermented hyaluronan is present in a range of about 0.1 mg/ml to about 1.0 mg/ml when added to a medium.

6. The supplement according to claim 1, wherein the citrate is present in a range of about 0.1 mM to about 1.0 mM when added to a medium.

7. The supplement according to claim 1 further comprising a medium that can support embryo or cell development, the medium selected from the group consisting of G1.2/G2.2, KSOM/KSOMaa, M16, SOF/SOFaa, MTF, P1, HTF, Earle's, Hams F-10, M2, Hepes-G1.2, Whitten's and PBS.

8. The supplement of claim 7 wherein the medium that can support cell development supports embryo development.

9. The supplement of claim 7 wherein the medium that can support cell development supports mammalian stem cell development.

10. A mammalian culture medium comprising recombinant human albumin and a medium that can support cell development.

11. The mammalian culture medium according to claim 10 further comprising citrate.

12. The mammalian culture medium according to claim 10 further comprising fermented hyaluronan.

13. The mammalian culture medium according to claim 11 further comprising fermented hyaluronan.

14. The mammalian culture medium according to claim 12, wherein the fermented hyaluronan is present in a range of about 0.1 mg/ml to about 1.0 mg/ml based on the total volume of the mammalian culture medium.

15. The mammalian culture medium according to claim 11, wherein the citrate is present in a range of about 0.1 mM to about 1.0 mM based on the total volume of the mammalian culture medium.

16. The mammalian culture medium according to claim 10, wherein the recombinant human albumin is present in a range of about 0.5 mg/ml to about 5.0 mg/ml based on the total volume of the mammalian culture medium.

17. A mammalian culture medium comprising fermented hyaluronan and a medium that can support cell development.

18. The mammalian culture medium according to claim 17 further comprising citrate.

19. The mammalian culture medium according to claim 17, wherein the fermented hyaluronan is present in a range of about 0.1 mg/ml to about 1.0 mg/ml based on the total volume of the mammalian culture medium.

20. The mammalian culture medium according to claim 18, wherein the citrate is present in a range of about 0.1 mM to about 1.0 mM based on the total volume of the mammalian culture medium.

21. A method of producing a supplement for a mammalian culture medium comprising adding recombinant human albumin to either water, saline or medium to make a supplement for a mammalian culture medium.

22. The method of producing a supplement for a mammalian culture medium of claim 21 further comprising adding fermented hyaluronan.

23. The method of producing a supplement for a mammalian culture medium of claim 21 further comprising adding citrate.

24. A method of producing a supplement for a mammalian culture medium comprising adding fermented hyaluronan to either water, saline or medium to make a supplement for a mammalian culture medium.

25. The method of producing a supplement for a mammalian culture medium of claim 24 further comprising adding citrate.

26. A kit for supplementation of mammalian culture medium, comprising:

(a) one or more ingredients selected from the group consisting of of mammalian culture medium, recombinant human albumin, fermented hyaluronan, citrate and combinations thereof; and

(b) instructions for use of the kit.

27. The kit according to claim 26, wherein the kit comprises a mammalian culture medium, wherein the mammalian culture medium is free from one or more of non-recombinant macromolecules, non-recombinant human albumin, and non-fermented hyaluronan.

28. The kit according to claim 26, wherein the instructions provide how to make a mammalian culture medium that is free from one or more of non-recombinant macromolecules, non-recombinant human albumin, and non-fermented hyaluronan.

29. The kit according to claim 26, wherein the instructions teach how to make a mammalian culture medium comprising one or more of recombinant human albumin in an amount of about 0.5 mg/ml to about 5.0 mg/ml, fermented hyaluronan in an amount of about 0.1 mg/ml to about 1.0 mg/ml, citrate in a concentration of about 0.1 mM to about 1.0 mM, and combinations thereof, based on the total weight of the mammalian culture medium.

30. A mammalian culture medium consisting essentially of:

(a) a medium that can support mammalian cell development;

(b) recombinant human albumin in an amount from about 0.1 mg/ml to about 20.0 mg/ml;

(c) fermented hyaluronan in an amount from about 0.1 mg/ml to about 5.0 mg/ml; and

(d) citrate in a concentration from about 0.1 mM to about 5.0 mM.

31. The culture medium according to claim 30, wherein the medium that can support embryo or cell development is selected from the group consisting of G1.2/G2.2, KSOM/KSOMaa, M16, SOF/SOFaa, MTF, P1, HTF, Earle's, Hams F-10, M2, Hepes-G1.2, Whitten's and PBS.

32. The culture medium according to claim 30, wherein the culture medium is free from one or more of non-recombinant macromolecules, non-recombinant human albumin, hyaluronan derived from a warm-blooded vertebrate and combinations thereof.

33. A mammalian culture medium supplement consisting essentially of:

(a) recombinant human albumin in an amount from about 0.125 mg/ml to about 20.0 mg/ml;

(b) fermented hyaluronan in an amount from about 0.1 mg/ml to about 5.0 mg/ml; and

(c) citrate in a concentration from about 0.1 mM to about 5.0 mM.

34. A method of increasing the viability of embryonic cells comprising culturing an embryo in the mammalian culture medium of claim 10, wherein the viability of the embryo is increased.